

METHODS AND DEVICES FOR TRANSMITTING AND/OR RECEIVING SHORT  
MESSAGES IN A FIXED NETWORK

The present invention relates to methods and devices for transmitting and/or receiving short messages (SM) in a fixed network, in which an SMS signal to be transmitted is modulated by FSK (frequency shift keying), and an SMS signal that is to be received and was modulated by FSK (frequency shift keying) is demodulated.

The SMS (Short Message Service), already long known from mobile radio communications, has also been offered for some time in a fixed network, e.g. as a service of Deutsche Telekom AG in its German fixed network. The product "SMS in Fixed Network", thus, the possibility of transmitting SM in a fixed network, is standardized by the Standard ETSI ES 201 912 V1.1.1 (2002-01) "Access and Terminals (AT); Short Message Service (SMS) for PSTN/ISDN; Short Message Communication Between a Fixed Network Short Message Terminal Equipment and a Short Message Service Centre" (European Telecommunications Standards Institute 2002).

According to the related art, the "SMS in Fixed Network" service can only be used with very special telephones, that is, until now, telephones specially designed for that purpose have been needed to send and receive SM in a fixed network. There is no method and no device in the related art which would permit the use of the "SMS in Fixed Network" service without special telephones.

The interface used for SMS in a fixed network is an analog or ISDN line, via which the signal, modulated by FSK (frequency shift keying) for transmission in accordance with ETSI ES 201 912, is transmitted at 1200 bit/s.

The indicated special SMS-capable fixed-network telephones each have a special hardware chip, in which the respective necessary modulation, demodulation and communications-control devices are configured hardware-wise.

5 The object of the present invention is to provide methods and devices which permit the use of the "SMS in Fixed Network" service at least partially even without the special telephones necessary for that purpose according to the related art. This objective is achieved according to the present invention by a  
10 method as recited in Claim 1, a method as recited in Claim 2, a device as recited in Claim 6, a device as recited in Claim 7 and a device as recited in Claim 8.

With the aid of the methods and devices of the present invention, more customers are able to utilize the "SMS in  
15 Fixed Network" service. The customers no longer have to rely so rigidly on the telephones needed according to the related art and provided with the indicated special hardware chip. The customers are thereby able to use the "SMS in Fixed Network" service more conveniently.

20 Advantageous and preferred further refinements of the methods according to the invention are the subject matter of Claims 3 through 5. Advantageous and preferred specific embodiments of the devices according to the invention are the subject matter of Claims 9 through 11.

25 In this context, the embodiment of the methods of the present invention according to Claim 4 and the specific embodiment of the devices of the invention according to Claim 10 are quite particularly preferred. In the case of these designs, the end customer can easily fall back upon a voice-capable modem as is  
30 commercially available and already installed for a long time at a great number of end users. According to the embodiments of the invention as recited in Claim 4 and Claim 10,

respectively, the "SMS in Fixed Network" service is now also able to operate via this voice-capable modem. The end customer thus has the advantage that, to a great extent, he/she can fall back upon hardware components already at hand, thereby  
5 increase their intrinsic value, and reduce investment costs compared to the related art.

Exemplary embodiments of the present invention are elucidated in the following.

In one exemplary embodiment of a method according to the  
10 present invention for transmitting an SM in a fixed network, an SMS signal to be transmitted is modulated by FSK (frequency shift keying) by a suitably programmed computer.

One exemplary embodiment of a device according to the present invention is used both for transmitting and for receiving an  
15 SM in a fixed network, and is set up so that it is able to carry out the method just indicated. A software program available in the computer simulates the necessary signal behavior on the line. The function of the computer thus programmed is to transmit the signal, modulated by FSK  
20 (frequency shift keying) for transmission in accordance with ETSI ES 201 912, at 1200 bit/s.

In the case of the last-named exemplary embodiment of a device according to the present invention, the demodulation of the FSK signals and even the communications control are carried  
25 out by the indicated computer which is suitably programmed. For communication with an SMSC (Short Message Service Center), the indicated exemplary embodiment of a device according to the present invention is provided with a voice-capable modem.